

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Ludmila Cherkasova et al.

Confirmation No.:

Application No.: 10/801,793

Examiner: N/A

Filing Date: March 16, 2004

Group Art Unit: N/A

Title: SYSTEM AND METHOD FOR DETERMINING A STREAMING MEDIA SERVER  
CONFIGURATION FOR SUPPORTING EXPECTED WORKLOAD IN COMPLIANCE WITH  
AT LEAST ONE SERVICE PARAMETER

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before  
mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97 (c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the  
pendency of this application, please charge any fees required or credit any overpayment to Deposit  
Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with  
any required copies of patents, publications or other information of which applicant(s) are aware, which  
applicant(s) believe(s) may be material to the examination of this application and for which there may be  
a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications  
and other foreign language information listed on PTO Form 1449, as presently understood by the  
individual(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the  
attached sheet, or where a foreign language patent is cited in a search report or other action by a  
foreign patent office in a counterpart foreign application, an English language version of the search  
report or action which indicates the degree of relevance found by the foreign office is listed on form PTO  
1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

☒ I hereby certify that this correspondence is being  
deposited with the United States Postal Service  
as first class mail in an envelope addressed to:  
Commissioner for Patents, Alexandria, VA  
22313-1450. Date of Deposit: Mar. 26, 2004  
OR

☐ I hereby certify that this paper is being  
transmitted to the Patent and Trademark Office  
facsimile number \_\_\_\_\_ on \_\_\_\_\_  
Number of pages: \_\_\_\_\_

Typed Name: Carrie D. Wilson

Signature: 

Respectfully submitted,

Ludmila Cherkasova et al.

By 

Jody C. Bishop

Attorney/Agent for Applicant(s)  
Reg. No. **44,034**

Date: **March 26, 2004**

Telephone No.: **(214) 855-8007**



## PATENT APPLICATION

Sheet 1 of 7

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

Mar. 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	10/306,279		Cherkasova et al.	
	1B	10/660,978		Cherkasova et al.	
	1C	10/601,956		Cherkasova et al.	
	1D	10/601,992		Cherkasova et al.	
	1E	5,603,029	02/11/1997	Aman et al.	
	1F	5,732,239	03/24/1998	Tobagi et al.	
	1G	5,734,119	03/31/1998	France et al.	
	1H	5,815,662	09/29/1998	Ong	
	1I	5,953,707	09/14/1999	Huang et al.	
	1J	6,067,107	05/23/2000	Travaille et al.	
	1K	6,101,547	08/08/2000	Mukherjee et al.	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	ACHARYA, S. et al., "Characterizing User Access To Videos On The World Wide Web," Part of the IS&T/SPIE Conference on Multimedia computing and Networking 2000, SPIE Vol. 3969, 2000, pages 130-141
	1R	ALMEIDA, J. et al., "Analysis of Educational Media Server Workloads," Proc. 11th Int'l. Workshop, 2001, 10 pages
	1S	CHASE, J. et al., "Managing Energy and Server Resources in Hosting Centers," Dept. of Computer Science, Duke University, 14 pages

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

March 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	2A	6,178,480	01/23/2001	Tobagi et al.	
	2B	6,263,361	07/17/2001	Hoyer et al.	
	2C	6,279,039	08/21/2001	Bhat et al.	
	2D	6,292,834	09/18/2001	Ravi et al.	
	2E	6,356,947	03/12/2002	Lutterschmidt	
	2F	6,434,621	08/13/2002	Pezzillo et al.	
	2G	6,438,592	08/20/2002	Killian	
	2H	6,571,288	05/27/2003	Sarukkai	
	2I	6,606,658	08/12/2003	Uematsu	
	2J	2002/0083124	06/27/2002	Knox et al.	
	2K	2002/0091722	07/11/2002	Gupta et al.	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L					
	2M					
	2N					
	2O					
	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

2Q	CHERKASOVA, L. et al., "Characterizing Locality, Evolution, and Life span of Accesses in Enterprise Media Server Workloads," NOSSDAV '02, May 12-14, 2002, 10 pages
2R	CHERKASOVA, L. et al., "Building a Performance Model of Streaming Media Applications in Utility Data Center Environment," Hewlett-Packard Laboratories, Internet Systems and Storage Lab, 12 pages
2S	CHERKOSAVA, I. et al., "Sizing the Streaming Media Cluster Solution for a Given Workload," Hewlett-Packard Laboratories, 8 pages

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

March 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A	2002/0129048	09/12/2002	Qiu et al.	
	3B	2002/0150102	10/17/2002	Janko et al.	
	3C	2002/0156552	10/24/2002	Whiting	
	3D	2003/0097443	05/22/2003	Gillett et al.	
	3E	2003/0115244	06/19/2003	Molloy et al.	
	3F	10/738,273		Cherkasova et al.	
	3G				
	3H				
	3I				
	3J				
	3K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	3L					
	3M					
	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	3Q	"Data center virtualization benefits", [Online] Retrieved 12/12/2003 Retrieved from <a href="http://h71028.www7.hp.com/enterprise/cache">http://h71028.www7.hp.com/enterprise/cache</a> -2 pages
	3R	DAN, A. et al., "Buffering and Caching in Large-Scale Video Servers," IEEE 1995, pgs 217-224
	3S	EAGER, D. et al., "Optimal and Efficient Merging Schedules for Video-on-Demand Servers," Proc. ACM Multimedia 1999, 4 pages

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

March 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	4A				
	4B				
	4C				
	4D				
	4E				
	4F				
	4G				
	4H				
	4I				
	4J				
	4K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	4L					
	4M					
	4N					
	4O					
	4P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

4Q	KIM, I. et al., "VBR Video Data Scheduling using Window-Based Prefetching," IEEE 1999, pgs 159-164
4R	NAHRSTEDT, K. et al., "A Probe-based Algorithm for QoS Specification and Adaptation," Univ. of Illinois at Urbana Champaign, pages 1 - 12
4S	NAHRSTEDT, K. et al., "QoS-Aware Resource Managment for Distributed Multimedia Applications," Univ. of Illinois at Urbana Champaign, Dept. of Computer Science, pages 1-37

EXAMINER

DATE CONSIDERED

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO.	APPLICATION NO.	CONFIRMATION NO.
	200401021-1	10/801,793	
	APPLICANT		
	Ludmila Cherkasova et al.		
	FILING DATE	GROUP	
	March 16, 2004		

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	5A				
	5B				
	5C				
	5D				
	5E				
	5F				
	5G				
	5H				
	5I				
	5J				
	5K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	5L					
	5M					
	5N					
	5O					
	5P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

5Q	RANJAN, S. et al., "QoS-Driven Server Migration for Internet Data Centers," Proc. of IWQoS 2002, 10 pages
5R	SHENOY, P. et al., "Middleware versus Native OS Support: Architectural Considerations for Supporting Multimedia Applications," Univ. of Massachusetts, Dept. of Computer Science, 10 pages
5S	ANDERSON, R. et al., "Unraveling the Mysteries Of Clustering", [Online] Retrieved 1/06/2004 Retrieved from <a href="http://www.nwc.com">http://www.nwc.com</a> - 5 sections - total of 19 pages

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

March 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	6A				
	6B				
	6C				
	6D				
	6E				
	6F				
	6G				
	6H				
	6I				
	6J				
	6K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	6L					
	6M					
	6N					
	6O					
	6P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

6Q	Definition of "Cluster Computing", [Online] Retrieved 1/6/2004 Retrieved from <a href="http://search390.techtarget.com/sDefinition">http://search390.techtarget.com/sDefinition</a> - 3 pages
6R	"Cluster" [Online] Retrieved 1/6/2004 Retrieved from <a href="http://whatis.techtarget.com/definition">http://whatis.techtarget.com/definition</a> 4 pages
6S	"HP Utility Data Center", [Online] Retrieved 12/12/2003 Retrieved from <a href="http://h71028.www7.hp.com/enterprise/cache">http://h71028.www7.hp.com/enterprise/cache</a> -2 pages

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200401021-1

APPLICATION NO.

10/801,793

CONFIRMATION NO.

APPLICANT

Ludmila Cherkasova et al.

FILING DATE

March 16, 2004

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	7A				
	7B				
	7C				
	7D				
	7E				
	7F				
	7G				
	7H				
	7I				
	7J				
	7K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	7L					
	7M					
	7N					
	7O					
	7P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

7Q	"Data center virtualization overview", [Online] Retrieved 12/12/2003 Retrieved from <a href="http://h71028.www7.hp.com/enterprise/cache">http://h71028.www7.hp.com/enterprise/cache</a> -2 pages
7R	"Data center virtualization architecture", [Online] Retrieved 12/12/2003 Retrieved from <a href="http://h71028.www7.hp.com/enterprise/cache">http://h71028.www7.hp.com/enterprise/cache</a> -2 pages
7S	

EXAMINER

DATE CONSIDERED



Application No. 10/801,793

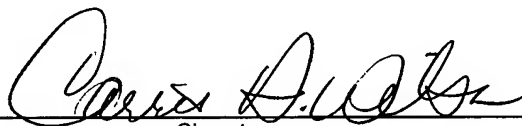
Attorney Docket No.: 200401021-1

## Certificate of Mailing Under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

on March 26, 2004  
Date



Signature

Carrie D. Wilson

Typed or printed name of person signing Certificate

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Return Postcard  
Information Disclosure Statement – 1 page  
PTO Form 1449 – 7 pages  
48 Cited References